



# 50 TON AIR/HYDRAULIC BOTTLE JACK

**Model 97548**

## SET UP AND OPERATING INSTRUCTIONS



Diagrams within this manual may not be drawn proportionally.

Due to continuing improvements, actual product may differ slightly from the product described herein.

**Distributed exclusively by Harbor Freight Tools®.**

3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>



**Read this material before using this product.  
Failure to do so can result in serious injury.  
SAVE THIS MANUAL.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

## SAVE THIS MANUAL

Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference.

## IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### DANGER

**DANGER** indicates a hazardous situation which, if not avoided, will result in death or serious injury.

### WARNING

**WARNING** indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### CAUTION

**CAUTION**, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

## NOTICE

**NOTICE** is used to address practices not related to personal injury.

## CAUTION

**CAUTION**, without the safety alert symbol, is used to address practices not related to personal injury.

## General Safety Rules



**WARNING!** Read all instructions. Failure to follow all instructions listed below may result in serious injury. The term “tool” in all of the warnings listed below refers to your Bottle Jack.

## SAVE THESE INSTRUCTIONS

1. **Work area safety**
  - a. Keep work area clean and well lit. *Cluttered or dark areas invite accidents.*
  - b. Do not operate tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. *Air and hydraulic tools create sparks which may ignite the dust or fumes.*
  - c. Keep children and bystanders away while operating this tool. *Distractions can cause you to lose control.*
3. **Personal safety**
  - a. Stay alert, watch what you are doing and use common sense when operating this tool. Do not use this tool while you are tired or under the influence of drugs, alcohol or medication. *A moment of inattention while operating this tool may result in serious personal injury.*
  - b. Use safety equipment. Always wear ANSI-approved safety impact

goggles. *Safety equipment such as non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*

- c. Avoid accidental starting. Ensure the Air Valve (32) is in the off-position before connecting to an air supply. *Connecting this tool with the Air Valve on invites accidents.*
- d. Remove any adjusting key or wrench before turning the tool on. *A wrench or a key left attached to a moving part of the tool may result in personal injury.*
- e. Do not overreach. Keep proper footing and balance at all times. *This enables better control of the tool in unexpected situations.*
- f. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewelry or long hair can be caught in moving parts.*

#### 4. Tool use and care

- a. Do not force the tool. Use the correct tool for your application. *The correct tool will do the job better and safer at the rate for which it was designed.*
- b. Do not use the tool if the Air Valve does not turn it on and off. *Any tool that cannot be controlled with its Air Valve is dangerous and must be repaired.*
- c. Disconnect the air hose from the tool and release any remaining air pressure before making any adjustments, changing accessories, or storing the tool. *Such preventive safety measures reduce the risk of starting the tool accidentally.*
- d. Store idle tools out of the reach of children and do not allow people

unfamiliar with the tool or these instructions to operate this tool. *Tools are dangerous in the hands of untrained users.*

- e. Maintain this tool. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the tool's operation. If damaged, have the tool repaired before use. *Many accidents are caused by poorly maintained tools.*
- f. Use the tool and its accessories in accordance with these instructions and in the manner intended for this particular type of tool, taking into account the working conditions and the work to be performed. *Use of this tool for operations different from those intended could result in a hazardous situation.*

#### 5. Service

- a. Have the tool serviced by a qualified repair person using only identical replacement parts. *This will ensure the safety of the tool is maintained.*

### **Specific Safety Rules**

- 1. Maintain labels and nameplates on the Bottle Jack. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- 2. Use clean, dry, regulated, compressed air at **110-120 PSI**. Do not exceed the recommended. Do not use oxygen, carbon dioxide, combustible gases, or any other bottled gas as a power source for this tool.
- 3. Do not exceed the **50 ton (100,000 pound)** capacity of the Bottle Jack. Doing so may cause damage to the tool and/or serious personal injury.

4. Bleed the hydraulic system of the Bottle Jack before its initial use.
5. Always place the Bottle Jack on a dry, oil/grease free, solid, level floor surface capable of supporting the weight of the Jack and all other additional tools and accessories.
6. Apply the vehicle's parking brake and chock the tires before lifting the vehicle.
7. Lift the vehicle only by the manufacturer-recommended lifting points.
8. Stay out from under the load while it is being lifted or supported.
9. Avoid rapid load descent. Turn the Release Screw slowly.
10. Do not use for aircraft purposes.
11. Do not leave the tool unattended when it is connected to a compressed air supply. Release the tool's load, and disconnect it from its compressed air supply before leaving.
12. This product is not a toy. Keep it out of reach of children.
13. When lifting only one wheel, make sure to support the load immediately with one jack stand (not included) placed under the side of the vehicle being lifted. Align the saddle of the jack stand directly under the vehicle's seam or recommended lifting point.
14. When lifting the entire front end or rear end of a vehicle, make sure to support the load immediately with two jack stands. Align the saddles of the jack stands directly under the vehicle's frame or recommended lifting points. Also, make sure the jack stands are adjusted at the same height.
15. Use the Bottle Jack only on vehicles whose frames have lifting points (on its seam or frame) capable of aligning with the Bottle Jack.
16. Do not use the Bottle Jack with the vehicle's engine running. When running, the vehicle's engine produces carbon monoxide, a colorless, odorless, toxic fume that, when inhaled, can cause serious personal injury or death.
17. Always keep hands, fingers, and feet away from all moving parts of the Bottle Jack when applying or releasing a load. Remain clear of the vehicle being raised or lowered. People and animals should be kept at a safe distance when using the Bottle Jack.
18. Do not allow anyone in the vehicle when using the Bottle Jack. Keep all bystanders a safe distance away from the vehicle.
19. Never support both ends of the vehicle at the same time.
20. Before lowering the Bottle Jack, make sure tool trays, jack stands, and all other tools and equipment are removed from under the vehicle.
21. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.



**SAVE THESE  
INSTRUCTIONS.**

## SPECIFICATIONS

Maximum Lifting Capacity	50 Tons (100,000 pounds)
Required Air Pressure	110-120 PSI
Air Inlet Fitting	1/4" - 18 NPT
Minimum Height	12"
Maximum Height	19"
Ram Travel	7"
Net Weight	89.70 lbs
Air Hose Length	46"
Jack Handle	20"L (2 pcs, upper & lower)

## UNPACKING

When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

**Note:** For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

## OPERATING INSTRUCTIONS



Read the **ENTIRE IMPORTANT SAFETY INFORMATION** section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

## ⚠ WARNING

**TO PREVENT  
SERIOUS INJURY  
FROM ACCIDENTAL**

### **OPERATION:**

**Disconnect the Bottle Jack from its compressed air supply source, and release any compressed air from the tool before performing any set up and operating procedures.**

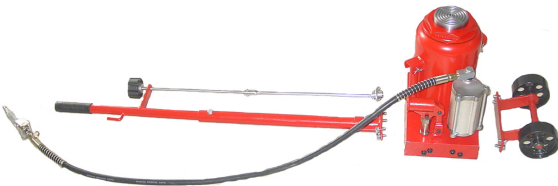
## Tool Set Up

1. **IMPORTANT:** Prior to use, make sure to check for presence of air and proper hydraulic oil level in the Bottle Jack. Then thoroughly test the Jack for proper operation prior to its actual use. If the Jack appears not to be working properly, it may be necessary to purge its hydraulic system of excessive air. To do so:
  - a. Insert the Lower Handle (41) onto the Release Valve Screw (4); first turn handle clockwise until snug. Then turn the Release Valve Screw 1-1/2 turns counterclockwise.  
**(See Assy. Diagram.)**
  - b. Wipe Filler Plug area with a clean and lint free rag. Remove the Filler Plug (15), and fill the Reservoir (14) with hydraulic oil (not included).  
**(See Assy. Diagram.)**
  - c. Insert the Handle (41, 41b) into the Handle Bracket (38). Then rapidly pump the Handle several times to purge air from the system.  
**(See Assy. Diagram.)**
  - d. Insert the Lower Handle (41) onto the Release Valve Screw (4). Then turn the Release Valve Screw clockwise until snug.  
**(See Assy. Diagram.)**
  - e. Top off the Reservoir (14) with hydraulic oil. Then replace the Filler



- Plug (15); and wipe the jack's exterior. **(See Assy. Diagram.)**
- f. **IMPORTANT: After bleeding the Bottle Jack, make sure to test the unit to ensure it operates properly.**
  - g. **NOTE:** To prevent damage to the Bottle Jack, check for excessive air and/or low hydraulic oil regularly.
4. Carefully position the ram (9) of the Bottle Jack under the vehicle manufacturer's recommended lifting point. (See vehicle manufacturer's manual for location of *seam* lifting point when lifting only one wheel and *frame* lifting points when lifting the entire front or rear end of the vehicle.) **(See Assy. Diagram.)**

Note: There are threaded holes on sides of Jack base, which are pre-drilled for the mounting of an optional wheel and handle kit (not included). Contact Harbor Freight Tools for details on this optional kit. (See below photo).



#### **To raise the vehicle manually:**

- a. Pump the Handle (41) assembly until the top of the Bottle Jack's ram (9) has nearly reached the vehicle lifting point. The Jack should be positioned at 90° to the vehicle's lifting point to ensure the Bottle Jack's Ram and vehicle lifting point are in alignment. If not, remove and reposition the Jack before lifting.
- b. To lift the vehicle, pump the Handle assembly using smooth, full strokes. **(See Assy. Diagram.)**

## **OPERATING INSTRUCTIONS**

1. Make sure the vehicle is parked on a flat, level, solid, ground surface.
2. Turn off the vehicle's engine. Place the vehicle's transmission in "PARK" (if automatic) or in it lowest gear (if manual). Set the emergency brake. Then chock the wheels that *are not* being lifted.
3. Check to make sure the Bottle Jack is fully lowered. If not, assemble the Handle (41) assembly. Insert the lower portion of the Handle assembly onto the Release Valve Screw (4), and turn the Screw *counterclockwise* to lower the Jack. Once the Jack's ram is fully lowered, turn the Screw *clockwise* to close the Release Valve (4). **(See Assy. Diagram.)**

#### **To raise the vehicle, using compressed air:**

- a. Check to make sure the Lock Lever of the Air Valve (32) assembly is in its *unlocked* position. Then connect an air hose (not included) to the Air Valve assembly. **(See Assy. Diagrams.)**
- b. Turn on your air compressor, and set its regulator to **110-120 PSI. Do not exceed 120 PSI.**
- c. Depress the Lever of the Air Valve assembly until the top of the Bottle Jack has nearly reached the vehicle lifting point. The Jack should be positioned at 90° to the vehicle's lifting point to ensure the Bottle Jack's Ram and vehicle lifting point are in alignment. If not, remove and reposition the Bottle Jack before

lifting.

**(See Assy. Diagrams.)**

- d. To lift the vehicle, continue to depress the Lever on the Air Valve assembly (32). Once the vehicle is lifted, make sure to place the Lock Lever in its *locked* position. **(See Assy. Diagrams.)**
5. Once the vehicle is raised, slide a jack stand (not included) to the proper lifting point referred to in the vehicle manufacturer's manual. If using two jack stands, make sure they are on the same point on each side of the vehicle. And if using two jack stands, make sure they are at the same height.
6. Slightly lower the Jack to ease the vehicle onto the jack stands.
7. While standing safely aside, gently rock the vehicle to determine if it is stable on the jack stand(s). If it is not, raise the vehicle, and reposition the jack stand(s). **WARNING!** When performing this procedure, be prepared to stand clear of the vehicle as the vehicle can fall off the jack stand(s) causing personal injury and/or property damage.
8. When the repair work to the vehicle is completed, make sure to remove all tools, old vehicle parts, etc. from under the vehicle.

#### **To lower the vehicle manually:**

- a. Make sure the Handle (41, 41b) assembly is turned completely *clockwise* to close the Release Valve Screw (4). Pump the Handle assembly to raise the vehicle slightly above the saddle(s) of the jack stand(s). Then remove the jack stand(s) from under the vehicle.

- b. *Slowly* turn the Handle (41, 41b) assembly *counterclockwise* (never more than two full turns) to lower the vehicle onto the ground.

**(See Assy. Diagram.)**

#### **To lower the vehicle, using compressed air:**

- a. Make sure the Handle (41, 41b) assembly is turned completely *clockwise* closing the Release Valve Screw (4). Release the Lock Lever on the Air Valve (32) assembly. Depress the Lever on the Air Valve assembly (32) to raise the vehicle slightly above the saddle(s) of the jack stand(s). Place the Lock Lever in its *locked* position. Then remove the jack stand(s) from under the vehicle. **(See Assy. Diagrams.)**
  - b. Turn off the air compressor, and disconnect the air hose from the Air Valve (32) assembly of the Jack. **(See Assy. Diagram.)**
  - c. Release the Lock Lever on the Air Valve (32) assembly. Then insert the Handle (41, 41b) assembly onto the Release Valve (4) of the Jack.
  - d. *Slowly* turn the Handle (41, 41b) assembly *counterclockwise* (never more than two full turns) to lower the vehicle onto the ground. **(See Assy. Diagram.)**
8. Lower the Bottle Jack completely (Be aware that it will take a good amount of effort to lower the ram back down level with the reservoir). Store the Jack in a clean, dry, safe location out of reach of children and other unauthorized people.

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## MAINTENANCE AND SERVICING

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**Procedures not specifically explained in this manual must be performed only by a qualified technician.**

### **TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:**

Disconnect the Bottle Jack from its compressed air supply source and use the Handle (41, 41b) assembly to loosen the Release Valve Screw (counterclockwise) before performing any inspection, maintenance, or cleaning procedures.

1. **BEFORE EACH USE**, inspect the general condition of the Bottle Jack. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged Air Hose, and any other condition that may affect its safe operation.
2. **AFTER USE**, clean external surfaces of the Bottle Jack with a clean, moist cloth and a mild detergent. Do not use solvents.
3. **BLEEDING INSTRUCTIONS:** Before each use or when the Bottle Jack lacks in performance, make sure to check for excessive air and proper hydraulic oil level in the Bottle Jack. If the Jack appears not to be working properly, it may be necessary to purge its hydraulic system of excessive air. To do so:
  - a. Insert the Lower Handle (41) onto the Release Valve Screw (4). Then turn the Release Valve Screw 1-1/2 turns counterclockwise releasing pressure. **(See Assy. Diagram.)**
  - b. Remove the Filler Plug (15), and fill the Reservoir (14) with hydraulic oil (not included). **(See Assy. Diagram.)**
  - c. Insert the Handle (41, 41b) into the Handle Bracket (38). Then rapidly pump the Handle several times to purge air from the system. **(See Assy. Diagram.)**
  - d. Insert the Lower Handle (41) onto the Release Valve Screw (4). Then turn the Release Valve Screw clockwise until snug to hold pressure. **(See Assy. Diagram.)**
  - e. Top off the Reservoir (14) with hydraulic oil. Then replace the Filler Plug (15). **(See Assy. Diagram.)**
  - f. **IMPORTANT: After bleeding the Bottle Jack, test the Jack for proper operation prior to its actual use.** **NOTE:** To prevent damage to the Bottle Jack, check for excessive air and/or low hydraulic oil regularly.
4. **WHEN STORING**, always store the Bottle Jack and its accessories in a clean, dry, safe location out of reach of children and other unauthorized people.



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## PLEASE READ THE FOLLOWING CAREFULLY

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THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

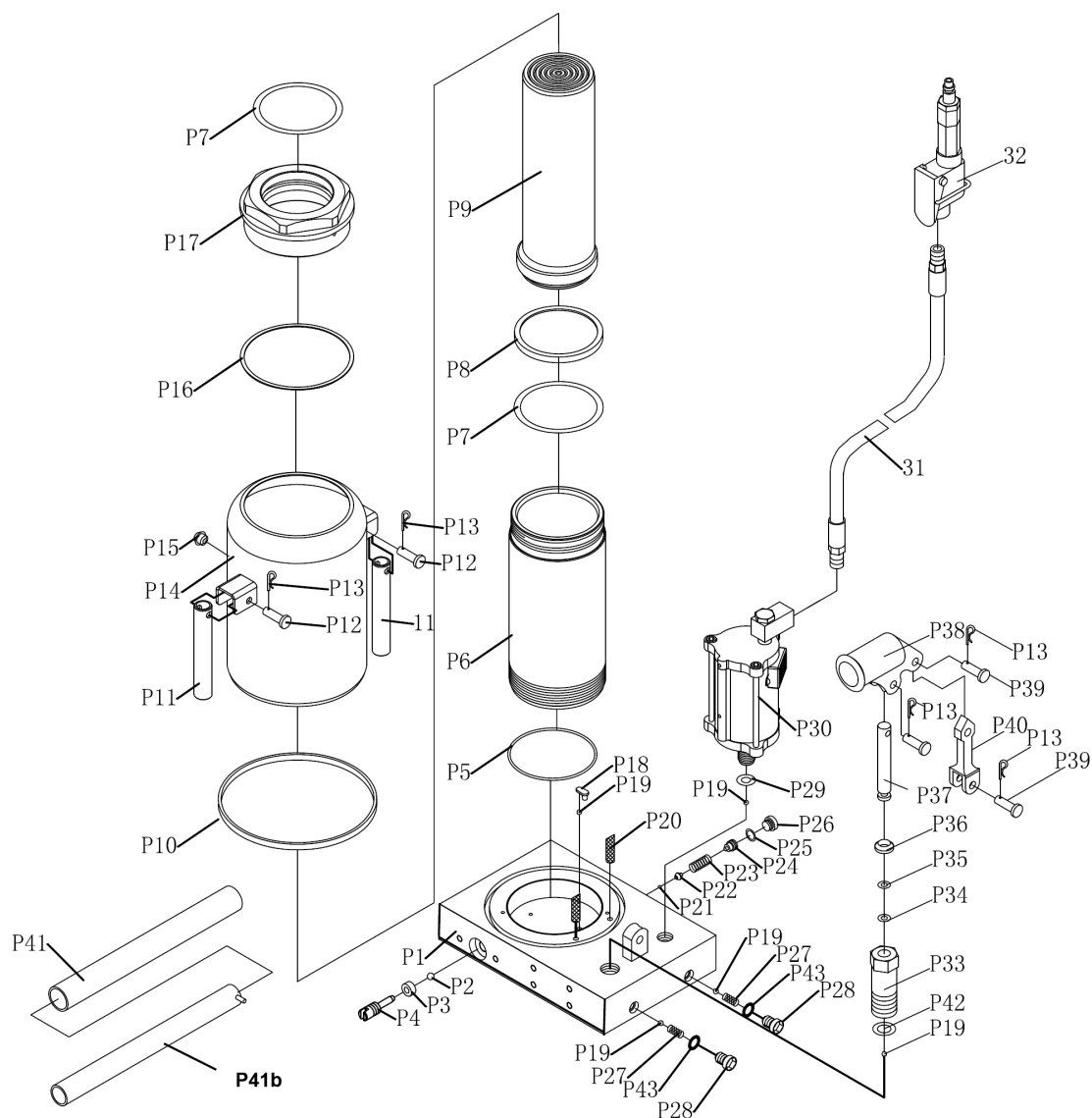
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## TROUBLESHOOTING

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<b>Bottle Jack will not raise the Bottle Jack ram when pumping the Handle <i>manually</i>.</b>	<ol style="list-style-type: none"><li>1. Use the slotted end of the Handle to tighten (clockwise) the Release Valve Screw on the Bottle Jack.</li><li>2. Bleed the Air Bottle Jack of excess air.</li></ol>
<b>Bottle Jack will not raise the Bottle Jack ram when using the <i>pneumatic</i> function.</b>	<ol style="list-style-type: none"><li>1. Use the slotted end of the Handle to tighten (clockwise) the Release Valve Screw on the Bottle Jack.</li><li>2. Check to make sure the regulator of the air compressor is set at 110-120 PSI.</li><li>3. Check for loose air connections and damaged air hoses.</li><li>4. Bleed the Bottle Jack of excess air.</li></ol>
<b>Bottle Jack ram does not lower.</b>	<ol style="list-style-type: none"><li>1. Use the slotted end of the Handle to loosen (counterclockwise) the Release Valve Screw on the Bottle Jack.</li></ol>

# ASSEMBLY DIAGRAM - ENTIRE UNIT

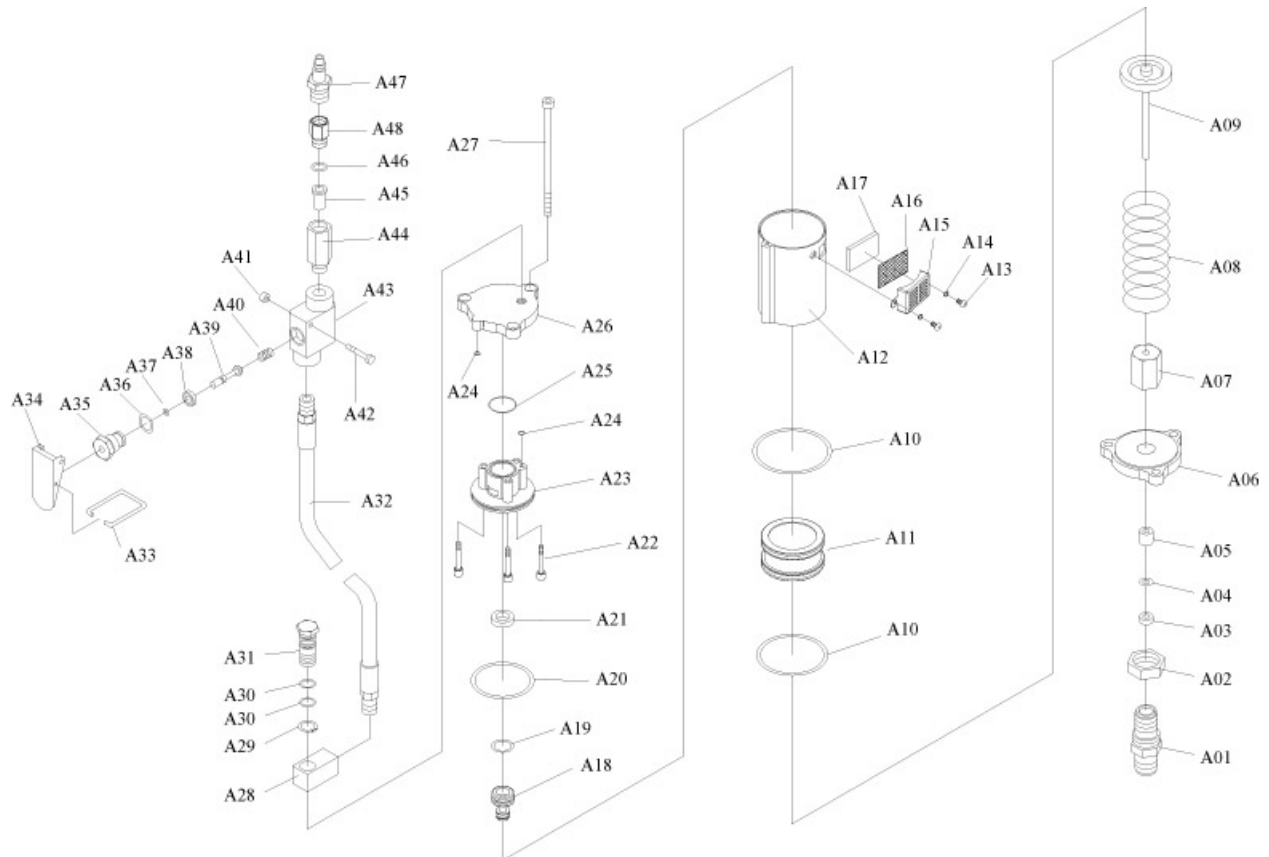


## PARTS LIST - ENTIRE UNIT

Part No	Description	Qty
1	Base	1
2	Ball	1
3	Seal	1
4	Release Valve	1
5	O-Ring	1
6	Cylinder	1
7	O-Ring	2
8	Cup Seal	1
9	Ram	1
10	Packing	1
11	Handle	2
12	Pin	1
13	R-Pin	5
14	Reservoir	1
15	Filler Plug	1
16	Nylon Ring	1
17	Top Nut	1
18	Ball Cup	1
19	Ball	5
20	Oil Filter	2
21	Ball	1
22	Ball Cup	1

Part No	Description	Qty
23	Spring	1
24	Screw	1
25	O-Ring	1
26	Screw	1
27	Spring	2
28	Screw	2
29	Washer	2
30	Air Motor	1
31	Air Hose	1
32	Air Valve	1
33	Pump Cylinder	1
34	O-Ring	1
35	Nylon Ring	1
36	Back Up Ring	1
37	Piston	1
38	Handle Bracket	1
39	Pin	3
40	Connector	1
41	Lower Handle	1
41b	Upper Handle	1
42	Washer	1
43	Washer	2

## DIAGRAM - AIR MOTOR



## PARTS LIST - AIR MOTOR

Part No	Description	Qty
A01	Air Pump Cylinder	1
A02	Nut	1
A03	Sealing Ring	1
A04	Nylon Ring	1
A05	Copper Ring	1
A06	Air Cylinder Seat	1
A07	Nut	1
A08	Spring	1
A09	Air Pump Piston	1
A10	O-Ring	2
A11	Big Piston	1
A12	Air Cylinder	1
A13	Screw	2
A14	Lock Washer	2
A15	Safety Cover	1
A16	Filter	1
A17	Silencing Pad	1
A18	Small Piston	1
A19	O-Ring	1
A20	O-Ring	1
A21	Sealing Ring	1
A22	Bolt	3
A23	Nylon Ring	1
A24	O-Ring	2

Part No	Description	Qty
A25	O-Ring	1
A26	Air Cylinder Cap	1
A27	Bolt	4
A28	Coupler Seat	1
A29	Retaining Ring	1
A30	O-Ring	2
A31	Coupler	1
A32	Air Hose	1
A33	Lock Lever	1
A34	Lever	1
A35	Nut	1
A36	O-Ring	1
A37	O-Ring	1
A38	Packing	1
A39	Throttle	1
A40	Spring	1
A41	Lock Nut	1
A42	Bolt	1
A43	Valve Body	1
A44	Screw	1
A45	Screen	1
A46	O-Ring	1
A47	Quick Coupler-male	1
A48	Coupler Seat	1



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## LIMITED 90 DAY WARRANTY

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Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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**Record Product's Serial Number Here:** \_\_\_\_\_

**Note:** If product has no serial number, record month and year of purchase instead.

**Note:** Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.